DAYVILLE MILLS HYDROELECTRIC FACILITY
North side of Rt. 101, .5 miles west of Rt. 395
Killingly
Windham County
Connecticut

HAER No. CT-145

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, P.A. 19106

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HISTORIC AMERICAN ENGINEERING RECORD

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HAER No. CT-145

Location: North side of Rt 101,
.5 miles west of Rt 395
Killingly
Windham County
Connecticut

USGS Danielson, CT quadrangle
Universal Transverse Mercator Coordinates:
19.260040.4636640

Engineer/Architect: Unknown

Date of Construction: 1883

Present Owner: William Prym, Inc.
PO Box 5028
Spartanburg, SC 29304

Present Occupant: Summit Hydropower, Inc.
92 Rocky Hill Road
Woodstock, CT 06281

Present Use: Unused

Significance: The Dayville Mills Hydroelectric Facility provided power to the Dayville Mills Complex until c1962. In 1858 Sabin L. Sayles and Harris C. Sayles of Pascoag, RI, built a textile mill building in Dayville. In the mid 1800's the area was characterized by an influx of out of state firms moving in and expanding the textile industry.

In 1883 a 50 foot by 200 foot 4-1/2 story brick structure was erected by the Sabin L. Sayles Co. This woolen goods manufactory became the principal industrial institution in the village of Dayville. In 1993 the building stands vacant.

The hydroelectric facilities at the Dayville Mills Complex were built c1858 to provide power for the textile machinery. In c1924 a new powerhouse was constructed. The hydropower facilities extant in 1993

consist of a powerhouse, generator, turbine, and gateworks which were all retired from service c1962.

Project Information: The Dayville Mills are eligible for inclusion on the National Register of Historic Places. In compliance with Article 406 of its Federal Energy Regulatory Control license No. 11168, Summit Hydropower, Inc. documented the extant hydropower facilities in 1993 prior to project rehabilitation. Summit Hydropower, Inc. plans to rehabilitate the extant hydropower facilities during 1993 and 1994 by performing minor repairs to restore the facilities to their original design c1924.

Duncan S. Broatch
Summit Hydropower, Inc.
92 Rocky Hill Road
Woodstock, CT 06281

OVERVIEW

Summary Description of Mill Complex

When the Whetstone Brook woolen production facilities of Sabin and Harris Sayles burned in 1858, part of the reason they decided to build a new mill at Dayville was because of the hydropower available from the Five Mile River. Over the subsequent 20 years they built several mills of brick and stone in Dayville.

Sabin and Harris Sayles moved their woolen manufactory to Dayville in 1858 where they built a small building containing four sets of machinery. The firm of Sabin and Harris Sayles was dissolved in 1879 by the retirement of Harris C. Sayles. In 1883 under the name of Sabin L. Sayles Company a 4-1/2 story 200' x 50' brick mill was built. It became the principal industrial institution in the Village of Dayville employing about 250 hands and producing about 325,000 broad yards of cloth annually. Textiles continued to be produced at the mill until it was purchased by the current owner, William Prym, Inc., on July 14, 1939. Prym manufactured needles and notions for the sewing industry as well as buttons and fasteners for the garment industry until it relocated its operations at this site to Spartanburg, SC in 1989. The big brick building is vacant in 1993.

This documentation focuses on hydroelectric facilities associated with Dayville Mills. Attached hereto are graphic documentation drawings and photographic documentation photos of the hydroelectric facilities. For a summary of the history and significance of Dayville Mills see the NAER inventory (Roth, 1980). However, it should be noted that the NAER inventory incorrectly states the head for the Risdon turbine was 19 feet when it was actually 17 feet and it illustrates Dayville Mills to be on the east side of the Five Mile River when it is actually on the west side.

Information on the 19th century Dayville Mills Hydroelectric Facility is limited but the sequence of development is relatively simple. During c1858 a diversion dam and associated water conveyance facilities were built to provide hydropower. The dam is located on the Five Mile River approximately one mile upstream from the intersection of the Five Mile River and U.S. Route 101. Water from the Five Mile River was diverted through intake gates and through an intake canal into a series of four man made ponds. At the southern most extremity of the ponds, approximately one mile downstream from the diversion dam, water was fed into the 4-1/2 story brick mill building where a Risdon turbine produced 190 horsepower under a head of 17 feet. In 1993 the building survives but neither this turbine nor any of its related facilities within the building survive. On or about 1925 a free standing brick powerhouse was built approximately 50 feet to the northeast of the mill building. At about this same time the dam and its associated gateworks were rehabilitated using poured concrete. The newer powerhouse construction also included a new headgate, penstock, turbine, generator and governor, all of which survive in 1993.

At the southern most extremity of the ponds, water passed through the headgate, through the buried penstock, into the powerhouse, through the turbine, and then back to the Five Mile River near the eastern end of the powerhouse. The energy of the falling water was harnessed by the turbine and converted into mechanical rotational power through the turbine shaft. The turbine shaft directly connected to a generator in the upper level of the powerhouse which generated electricity that was conveyed to the mill building via a 50' long underground electrical conduit. Power was then distributed for use throughout the mill. These newer hydroelectric facilities provided power to Dayville Mills from c1925 until c1962. During this period the hydroelectric facility received little alteration. However, during this period the mill buildings also received supplemental electricity from the local utility, Hartford Electric Light Company. In 1962 the hydroelectric facilities were retired from service because the cost to add protective electrical devices to meet the utility's modern safety requirements to run in parallel with the utility was prohibitive for such a relatively small generator.

SOURCES OF INFORMATION

Drawings and Maps

The two attached maps are dated 1856 and 1869 respectively. The 1856 shows no dam or ponds in Dayville whereas the 1869 map does show a dam and ponds. The map sources are listed in the bibliography below.

The attached drawings were reproduced from the Minor License Application for the Dayville Pond Hydroelectric Project by Summit Hydropower to the Federal Energy Regulatory Commission, Project No. 11168, dated July 19, 1991. These drawings depict features as they exist in 1993. There are no other known drawings of the facility.

Interviews

Johan Starrenburg, Vice President of Operations William Prym, Inc., interviewed by Duncan S. Broatch throughout 1991, regarding the operation of the facility during Prym's ownership (1939-present).

Michael Woznicki, (former) Facilities Engineer William Prym, Inc., interviewed by Duncan S. Broatch throughout 1991, regarding the operation of the facility during Prym's ownership (1939-present).

Robert Miller, local historian. Interviewed by Duncan S. Broatch throughout 1991 regarding site history (early 1800's - 1939).

BIBLIOGRAPHY

Bayles, Richard M.
1889 History of Windham County, Connecticut, New York: W.W. Preston and Co.

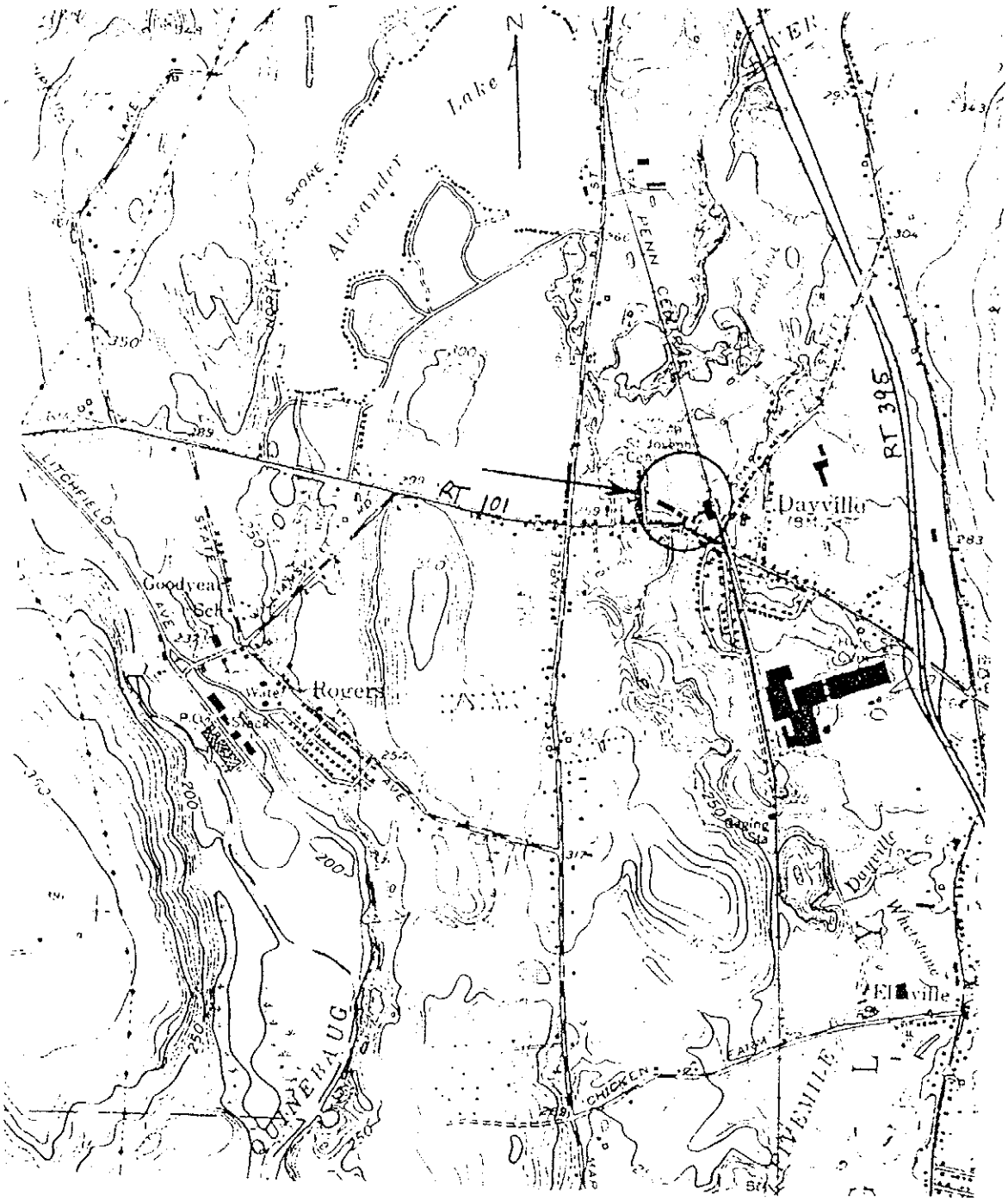
William K. Pike & Son
1947 Survey and title search performed by William K. Pike & Son, Civil Engineers and Surveyors, Danielson, CT for William Prym, Inc., Mss. on file Summit Hydropower

Summit Hydropower
1991 Minor License Application for the Dayville Pond Hydroelectric Project by Summit Hydropower to the Federal Energy Regulatory Commission, Project No. 11168, dated July 19, 1991, Mss. on file Summit Hydropower.

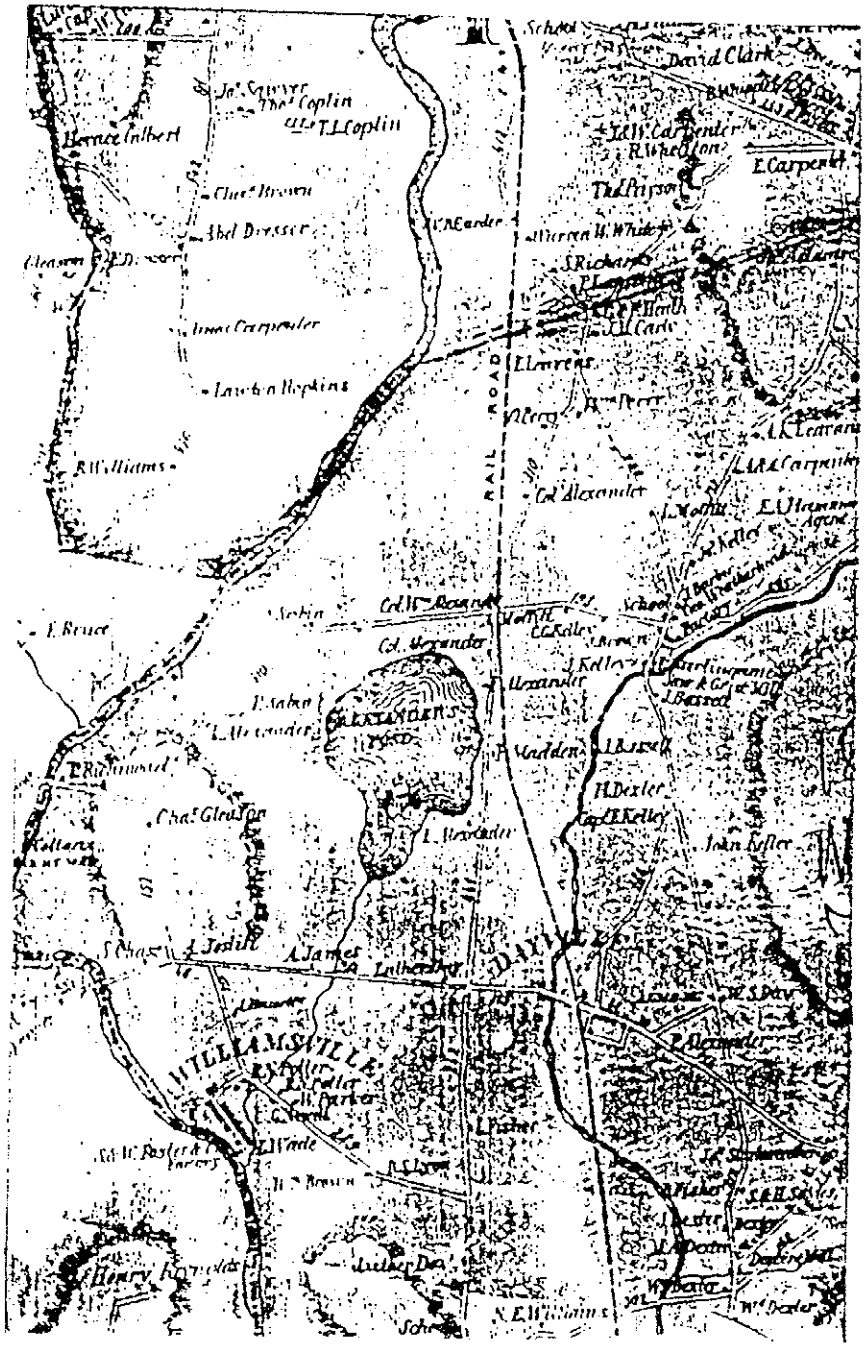
Roth, M.W.
1980 NAER Inventory for Dayville Mills, Windham County, Connecticut.

Woodford, EM
1856 Map of Windham County, Connecticut, Philadelphia, Pennsylvania.

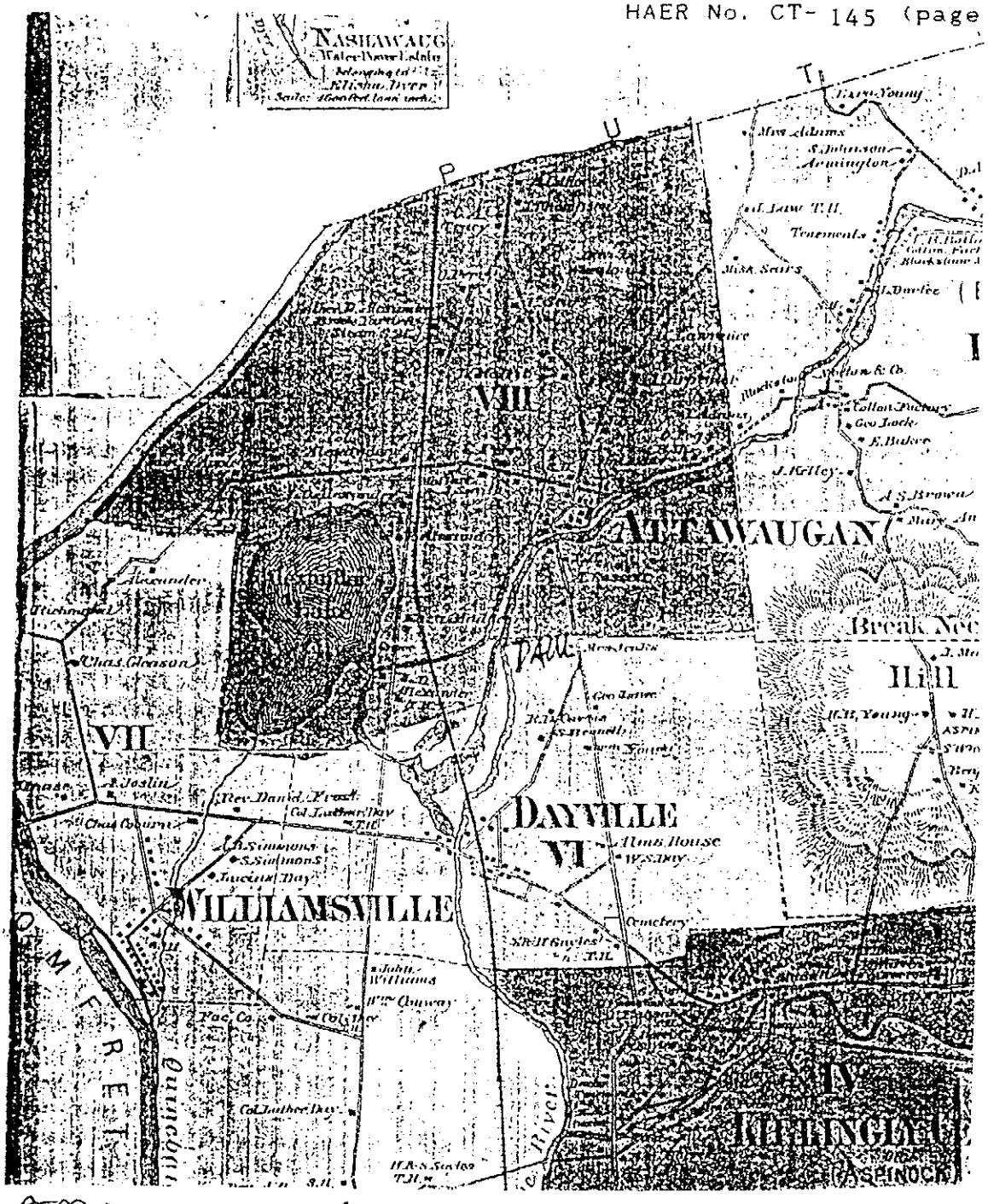
Gray, O.W.
1869 Atlas of Windham and Tolland Counties, C.G. Keeney, Hartford, Connecticut.



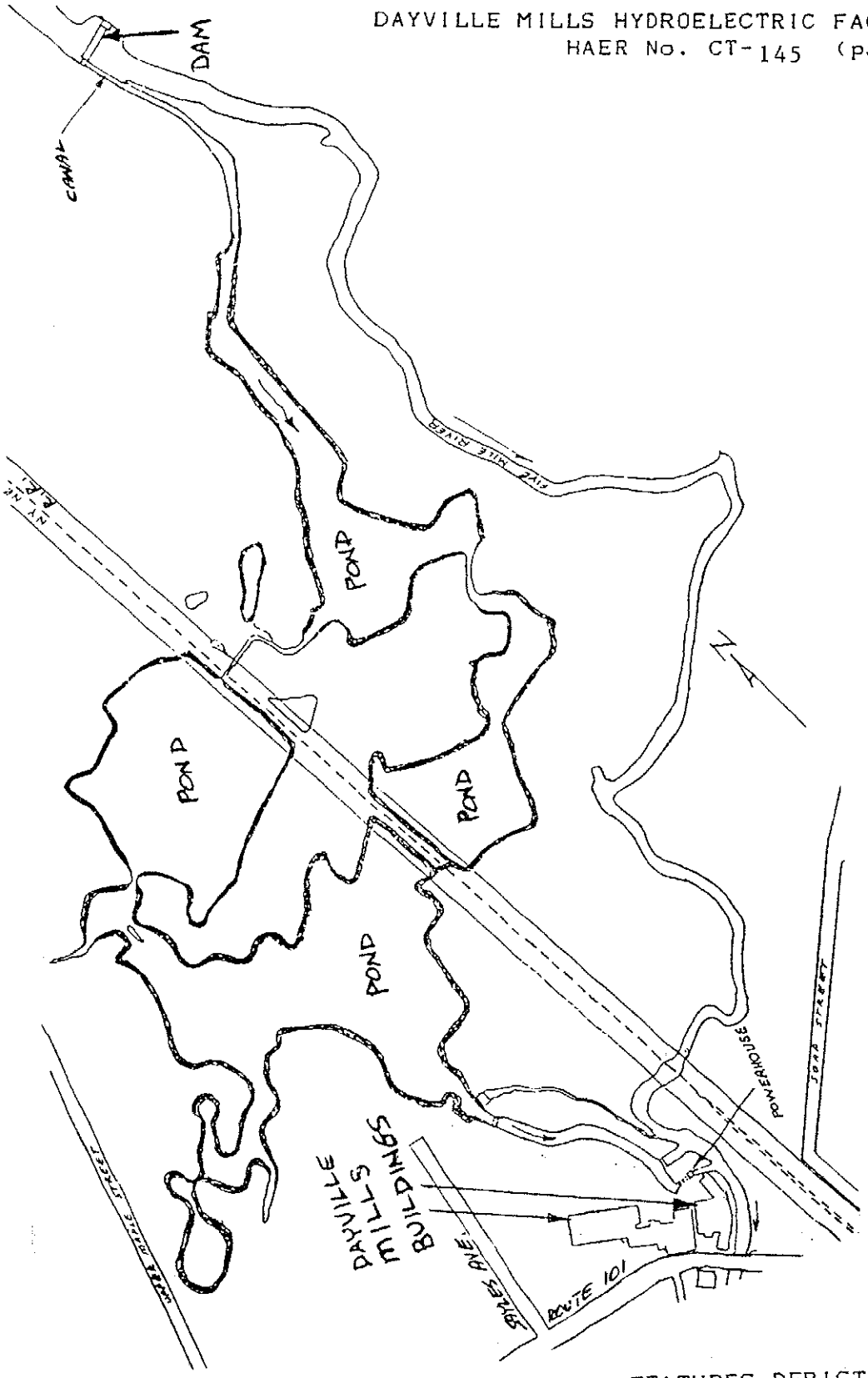
REPRODUCED FROM USGS QUAD MAP, DANIELSON, CT, 1970 1:24,000



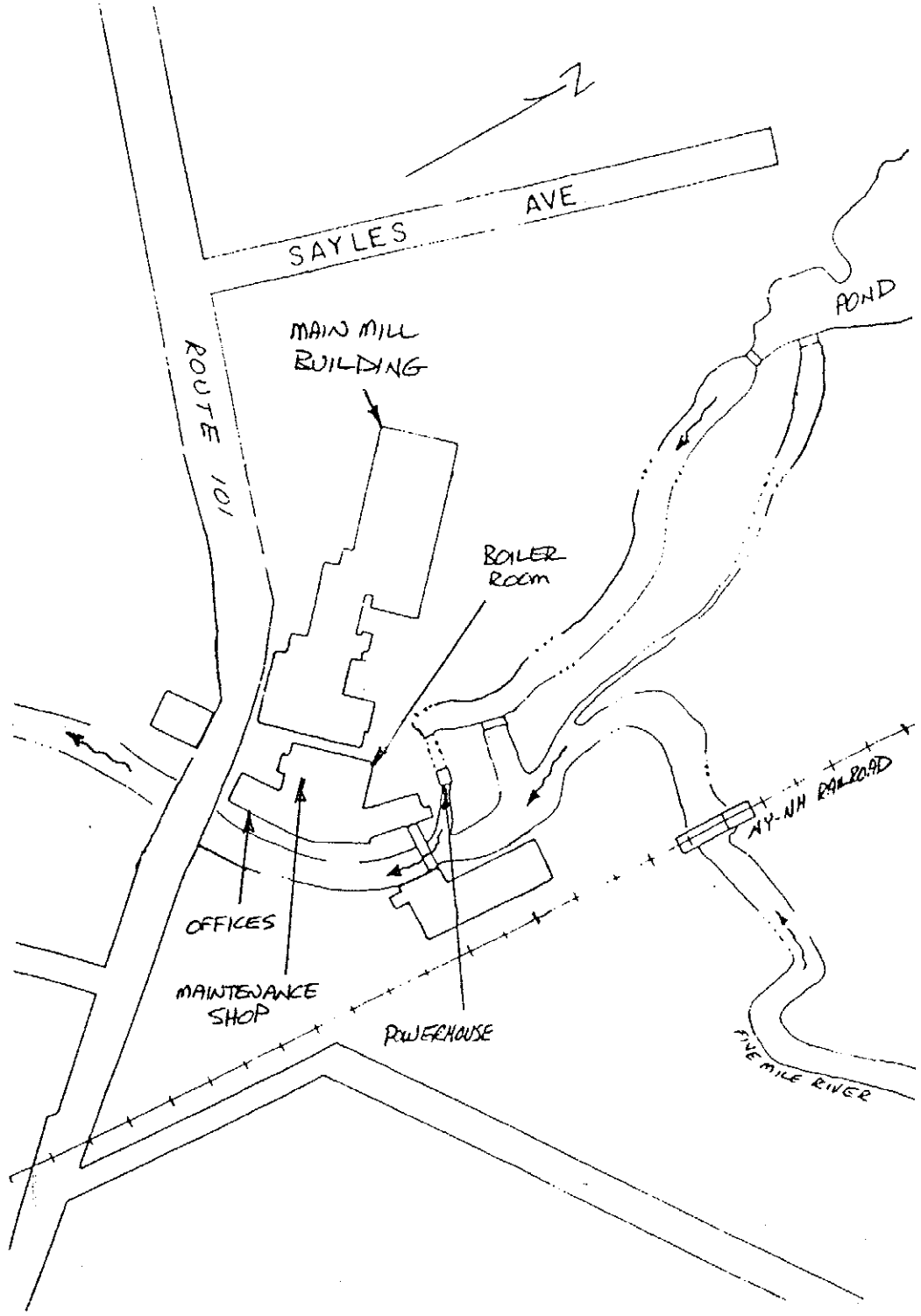
REPRODUCED FROM MAP OF WINDHAM COUNTY, CT DATED 1856. NOTE THAT AT THIS TIME THERE IS SHOWN NO DAM OR DIVERSION OR POND FOR HYDROPOWER IN DAYVILLE.



REPRODUCED FROM ATLAS OF WINDHAM AND TOLLAND COUNTIES, CT. DATED 1869. NOTE THAT AT THIS TIME THERE IS SHOWN A DAM AND DIVERSION AND POND FOR HYDROPOWER IN DAYVILLE.



FEATURES DEPICTED
AS EXISTING IN 1991.



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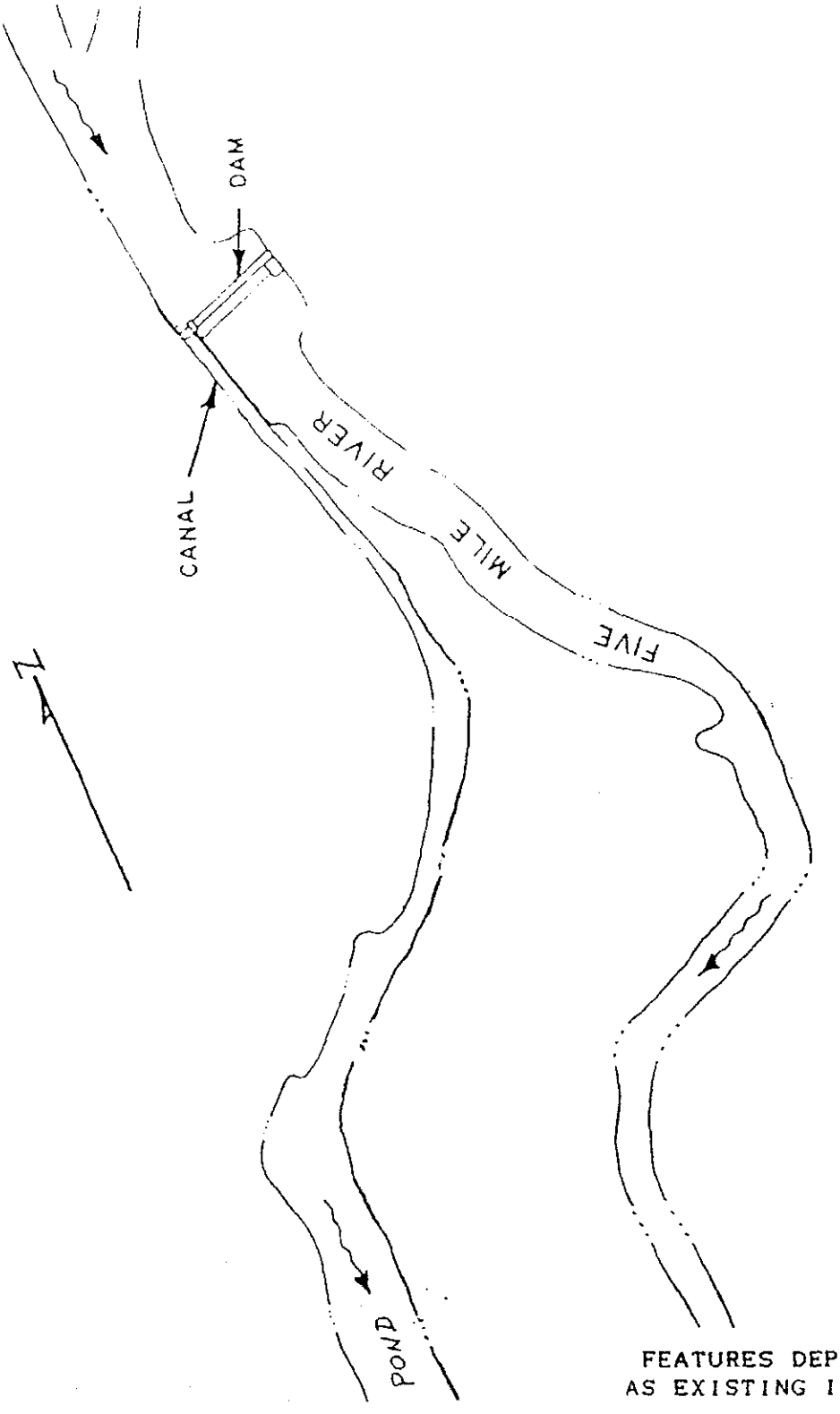

FEATURES DEPICTED
AS EXISTING IN 1991.